

Appln No. 10/773,188
Amdt. Dated October 18, 2006
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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) An inkjet printhead comprising:
a wafer providing a supporting substrate, the wafer having a drop ejection side and a liquid supply side;
a plurality of nozzles, each nozzle having a liquid passage leading to it from the liquid supply side of the wafer for providing ejectable liquid to the nozzle;
drop ejection actuators and associated drive circuitry corresponding to each nozzle respectively;
the nozzles, ejection actuators, associated drive circuitry and liquid passage being formed on and through the wafer using lithographically masked etching techniques; wherein, the liquid passage is partially etched from the drop ejection side such that the distance between the drive circuitry and the passage is less than 20 microns.
2. (Original) An inkjet printhead according to claim 1 wherein the distance between the drive circuitry and the liquid passage is less than 10 microns.
- 3 (Original) An inkjet printhead according to claim 1 wherein the distance between the drive circuitry and the liquid passage is less than 5 microns.
- 4 (Original) An inkjet printhead according to claim 1 wherein the width of the liquid passage is greater than 10 microns and less than 28 microns.
5. (Original) An inkjet printhead according to claim 1 wherein the drop ejection actuators are thermal bend actuators.
6. (Original) An inkjet printhead according to claim 1 wherein the drop ejection actuators are gas bubble generating heater elements.

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7. (Currently Amended) An inkjet printhead according to ~~claim 7~~claim 6 further including a plurality of nozzle chambers, each nozzle chamber corresponding to a respective nozzle; wherein,
at least one the of the gas bubble generating heater elements are disposed in each of the nozzle chambers respectively; such that,
a bubble forming liquid can be supplied to the nozzle chamber for thermal contact with at least one of the bubble generating heater elements so that a bubble of the bubble forming liquid generated by one of the heater elements causes a droplet of the ejectable liquid to be ejected from the nozzle.
8. (Currently Amended) An inkjet printhead according to ~~claim 8~~claim 7 wherein the bubble forming liquid is the same as the ejected liquid.
9. (Original) An inkjet printhead according to claim 1 wherein the printhead is a pagewidth printhead.
- ~~11~~10. (Currently Amended) A method of ejecting drops of an ejectable liquid from an inkjet printhead, the printhead comprising a wafer providing a supporting substrate, the wafer having a drop ejection side and a liquid supply side, a plurality of nozzles, each nozzle having a liquid passage leading to it from the liquid supply side of the wafer for providing ejectable liquid to the nozzle, drop ejection actuators and associated drive circuitry corresponding to each nozzle respectively, the nozzles, ejection actuators, associated drive circuitry and liquid passage being formed on and through the wafer using lithographically masked etching techniques; wherein,
the liquid passage is partially etched from the drop ejection side such that the distance between the drive circuitry and the passage is less than 20 microns; the method of ejecting drops comprising the steps of:
providing the ejectable liquid to each of the nozzles using the associated liquid passage; and
actuating the drop ejection actuator to eject drops of the ejectable liquid from the nozzle.
- ~~12~~11. (Currently Amended) A method according to ~~claim 11~~claim 10 wherein the distance between the drive circuitry and the liquid passage is less than 10 microns.

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~~13~~12. (Currently Amended) A method according to ~~claim 11~~ claim 10 wherein the distance between the drive circuitry and the liquid passage is less than 5 microns.

~~14~~13. (Currently Amended) A method according to ~~claim 11~~ claim 10 wherein the width of the liquid passage is greater than 10 microns and less than 28 microns.

~~15~~14. (Currently Amended) A method according to ~~claim 11~~ claim 10 wherein the drop ejection actuators are thermal bend actuators.

~~16~~15. (Currently Amended) A method according to ~~claim 11~~ claim 10 wherein the droplet ejection actuators are gas bubble generating heater elements.

~~17~~16. (Currently Amended) A method according to ~~claim 16~~ claim 15 further including a plurality of nozzle chambers, each nozzle chamber corresponding to a respective nozzle; wherein,

at least one the of the gas bubble generating heater elements are disposed in each of the nozzle chambers respectively; such that,

a bubble forming liquid can be supplied to the nozzle chamber for thermal contact with at least one of the bubble generating heater elements so that a bubble of the bubble forming liquid generated by one of the heater elements causes a drop of the ejectable liquid to be ejected from the nozzle.

~~18~~17. (Currently Amended) A method according to ~~claim 17~~ claim 16 wherein the bubble forming liquid is the same as the ejected liquid.

~~19~~18. (Currently Amended) A method according to ~~claim 11~~ claim 10 wherein the printhead is a pagewidth printhead.

~~20~~19. (Currently Amended) A printer system incorporating an inkjet printhead comprising: a wafer providing a supporting substrate, the wafer having a drop ejection side and a liquid supply side;

a plurality of nozzles, each nozzle having a liquid passage leading to it from the liquid supply side of the wafer for providing ejectable liquid to the nozzle;

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drop ejection actuators and associated drive circuitry corresponding to each nozzle respectively;
the nozzles, ejection actuators, associated drive circuitry and liquid passage being formed on and through the wafer using lithographically masked etching techniques; wherein, the liquid passage is partially etched from the drop ejection side such that the distance between the drive circuitry and the passage is less than 20 microns.

3220. (Currently Amended) A printer system according to ~~claim 31~~ claim 19 wherein the distance between the drive circuitry and the liquid passage is less than 10 microns.

3321. (Currently Amended) A printer system according to ~~claim 31~~ claim 19 wherein the distance between the drive circuitry and the liquid passage is less than 5 microns.

3422. (Currently Amended) A printer system according to ~~claim 31~~ claim 19 wherein the width of the liquid passage is greater than 10 microns and less than 28 microns.

3523. (Currently Amended) A printer system according to ~~claim 31~~ claim 19 wherein the droplet ejection actuators are thermal bend actuators.

3624. (Currently Amended) A printer system according to ~~claim 31~~ claim 19 wherein the droplet ejection actuators are gas bubble generating heater elements.

3725. (Currently Amended) A printer system according to ~~claim 36~~ claim 24 further including a plurality of nozzle chambers, each nozzle chamber corresponding to a respective nozzle; wherein,
at least one the of the gas bubble generating heater elements are disposed in each of the nozzle chambers respectively; such that,
a bubble forming liquid can be supplied to the nozzle chamber for thermal contact with at least one of the bubble generating heater elements so that a bubble of the bubble forming liquid generated by one of the heater elements causes a drop of the ejectable liquid to be ejected from the nozzle.

3826. (Currently Amended) A printer system according to ~~claim 37~~ claim 25 wherein the bubble forming liquid is the same as the ejected liquid.

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3927. (Currently Amended) A printer system according to ~~claim 31~~ claim 19 wherein the printhead is a pagewidth printhead.